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(71) Applicant *(for all designated States except US)*: **SUGEN, INC.** [US/US]; 230 East Grand Avenue, South San Francisco, CA-94080-4811 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **PLOWMAN, Gregory, D.** [US/US]; 35 Winding Way, San Carlos, CA 94070 (US). **WHYTE, David** [US/US]; 2623 Barclay Way, Belmont, CA 94002 (US). **MANNING, Gerard** [IE/US]; 844 Fremont Street #4, Menlo Park, CA 94025 (US). **SUDARSANAM, Sucha** [US/US]; 20 Corte Patencio, Greenbrae, CA 94904 (US). **MARTINEZ, Ricardo** [US/US]; 984 Cartier Lane, Foster City, CA 94404 (US).

(74) Agents: **BURROUS, Beth, A.** et al.; Foley & Lardner, 3000 K Street N.W., Suite 500, Washington, DC 20007-5109 (US).

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(54) Title: NOVEL HUMAN PROTEIN KINASES AND PROTEIN KINASE-LIKE ENZYMES

(57) Abstract: The present invention relates to kinase polypeptides, nucleotide sequences encoding the kinase polypeptides, as well as various products and methods useful for the diagnosis and treatment of various kinase-related diseases and conditions. Through the use of a bioinformatics strategy, mammalian members of the PTK's and STK's have been identified and their protein structure predicted.

BRIEF DESCRIPTION OF THE FIGURES

Figures 1A-1L show the nucleotide sequences for human protein kinases oriented in a 5' to 3' direction (SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4, SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 9, SEQ ID NO: 10, SEQ ID NO: 11, and SEQ ID NO: 12).

Figures 2A-2D show the amino acid sequences for the human protein kinases encoded by SEQ ID No. 1-12 in the direction of translation (SEQ ID NO: 13, SEQ ID NO: 14, SEQ ID NO: 15, SEQ ID NO: 16, SEQ ID NO: 17, SEQ ID NO: 18, SEQ ID NO: 19, SEQ ID NO: 20, SEQ ID NO: 21, SEQ ID NO: 22, SEQ ID NO: 23, and SEQ ID NO: 24). Some of the sequences encode predicted stop codons within the coding region, indicated by an 'x.'

DETAILED DESCRIPTION OF THE INVENTION

The invention provides, *inter alia,* protein kinase and kinase-like genes, as well as fragments thereof, which have been identified in genomic databases. In part, the invention provides nucleic acid molecules that are capable of encoding polypeptides having a kinase or kinase-like activity. By reference to Tables 1 though 8, below, genes of the invention can be better understood. The invention additionally provides a number of different embodiments, such as those described below.

Nucleic Acids

Associations of chromosomal localizations for mapped genes with amplicons implicated in cancer are based on literature searches (PubMed http://www.ncbi.nlm.nih.gov/entrez/query.fcgi), OMIM searches (Online Mendelian Inheritance in Man, http://www.ncbi.nlm.nih.gov/Omim/searchomim.html) and the comprehensive database of cancer amplicons maintained by Knuutila, et al. (Knuutila, et al., DNA copy number amplifications in human neoplasms. Review of comparative genomic hybridization studies. Am J Pathol 152:1107-1123, 1998. http://www.helsinki.fi/~lgl_www/CMG.html). For many of the mapped genes, the cytogenetic region from Knuutila is listed followed by the number of cases with documented amplification and the total number of cases studied. Thus for SGK187, the entry "non-small cell lung cancer (12q24.1-24.3; 2/50)" means that the chromosomal position has been associated with non-small cell lung cancer, at position